

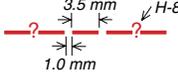
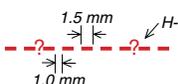
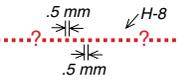
**1—CONTACTS, KEY BEDS, AND DIKES**

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS	NOTES ON USAGE
<b>1.1—Contacts</b>				
1.1.1	Contact—Certain		<i>lineweight .15 mm</i>	For an explanation of the various levels of uncertainty of contacts and other line symbols, see Section 4 entitled "Guidelines for Symbol Usage" in the accompanying introductory text.  For an explanation of the abbreviations used throughout this appendix, see Table 2 in the accompanying introductory text.
1.1.2	Contact—Approximately located			
1.1.3	Contact—Approximately located, queried			
1.1.4	Contact—Inferred			
1.1.5	Contact—Inferred, queried			
1.1.6	Contact—Concealed			
1.1.7	Contact—Concealed, queried			
1.1.8	Contact—Showing dip where known			Place symbol ornamentation where observation was made.
1.1.9	Overtured contact—Showing dip where known			
1.1.10	Contact—Showing direction and plunge of lineation where known			Dip value indicates a measured dip direction and magnitude; if necessary for clarity, place 90 on stratigraphic top side of vertical contact.  Tick without dip value indicates general direction of dip.
1.1.11	Contact—Showing location where contact is well exposed in field			
1.1.12	Contact—Showing relative age of intrusive or extrusive units where known: Y, younger; O, older			Arrow shows lineation on contact surface; tick and arrow may be combined to show dip and lineation at one locality.
1.1.13	Gradational contact—Certain			Use to indicate gradual or continuous change from one lithology to another across contact.  Placement can be arbitrary, especially on larger scale maps.
1.1.14	Gradational contact—Approximately located			
1.1.15	Gradational contact—Approximately located, queried			

**1—CONTACTS, KEY BEDS, AND DIKES (continued)**

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS	NOTES ON USAGE	
<b>1.2—Key beds</b>					
1.2.1	Key bed—Certain		<i>lineweight .2 mm</i>	Use when key bed is too narrow to show as an area at map scale. May also be shown in color.	
1.2.2	Key bed—Approximately located				
1.2.3	Key bed—Approximately located, queried				
1.2.4	Key bed—Inferred				
1.2.5	Key bed—Inferred, queried				
1.2.6	Key bed—Concealed				
1.2.7	Key bed—Concealed, queried				
1.2.8	Key bed—Showing name			Labels refer to individually mapped units. Name and (or) thickness notation may also be added to show clay or coal beds.	
1.2.9	Key bed—Showing thickness in meters and location where measured				
1.2.10	Outcrop areas of key bed, type 1			Usually shown on larger scale maps. Areas may also be used to show clay or coal beds. May be shown in color.	
1.2.11	Outcrop areas of key bed, type 2				
1.2.12	Coal bed—Certain		<i>lineweight .3 mm</i>	Use when coal bed is too narrow to show as an area at map scale. May also be shown in color. Labels may be added to individually mapped coal beds; use same name and (or) thickness notation as shown above for key beds. Can also be used as contacts. Same line symbol can also be used for other economically important beds such as bentonite, phosphate, or limestone.	
1.2.13	Coal bed—Approximately located				
1.2.14	Coal bed—Approximately located, queried				
1.2.15	Coal bed—Inferred				
1.2.16	Coal bed—Inferred, queried				
1.2.17	Coal bed—Concealed				
1.2.18	Coal bed—Concealed, queried				
1.2.19	Clinkered coal bed—Certain				Tops of V's follow trace of bed; V's point downward stratigraphically. Labels may be added to individually mapped clinkered coal beds; use same name and (or) thickness notation as shown above for key beds.
1.2.20	Clinkered coal bed—Approximately located				
1.2.21	Clinkered coal bed—Approximately located, queried				
1.2.22	Area of clinkered coal bed—Showing name				

**1—CONTACTS, KEY BEDS, AND DIKES (continued)**

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS	NOTES ON USAGE
<b>1.2—Key beds (continued)</b>				
1.2.23	Clay bed—Certain		<i>lineweight .5 mm</i> <i>color 100% red</i>	For an explanation of spot color specifications used throughout this appendix, see Table 3 in the accompanying introductory text.  Use when clay bed is too narrow to show as an area at map scale. May also be shown in other colors.  Labels may be added to individually mapped clay beds; use same name and (or) thickness notation as shown above for key beds.
1.2.24	Clay bed—Approximately located			
1.2.25	Clay bed—Approximately located, queried			
1.2.26	Clay bed—Inferred			
1.2.27	Clay bed—Inferred, queried			
1.2.28	Clay bed—Concealed			
1.2.29	Clay bed—Concealed, queried			

**1—CONTACTS, KEY BEDS, AND DIKES (continued)**

REF NO	DESCRIPTION	SYMBOL	CARTOGRAPHIC SPECIFICATIONS	NOTES ON USAGE
<b>1.3—Dikes</b>				
1.3.1	Dike 1—Certain		lineweight .375 mm color 100% red	Use when dike is too narrow to show as an area at map scale.
1.3.2	Dike 1—Approximately located		3.5 mm 1.0 mm	May be shown in different colors.
1.3.3	Dike 1—Showing name		Km leader lineweight .175 mm	Labels may be added to all types of dikes if desired.
1.3.4	Dike 1—Showing variable thickness		KJd H-8 KJd leader lineweight .175 mm lineweight .15 mm	Color fill shown for areal dikes is 50% red, but any color may be used.
1.3.5	Dike intruding fault		H-8 Td lineweight .15 mm leader lineweight .175 mm lineweight .375 mm	
1.3.6	Dike 2—Certain		90° lineweight .375 mm 1.75 mm lineweight .30 mm	Dike symbols shown may either be used alone or on maps that show more than one type of dike.
1.3.7	Dike 2—Approximately located		3.5 mm 1.0 mm	
1.3.8	Dike 3—Certain		all lineweights .375 mm 1.75 mm	
1.3.9	Dike 3—Approximately located		3.5 mm 1.0 mm	
1.3.10	Dike 4—Certain		lineweight .375 mm dot diameter 1.5 mm	
1.3.11	Dike 4—Approximately located		3.5 mm 1.0 mm	
1.3.12	Dike 5—Certain		circle diameter 1.25 mm lineweight .375 mm lineweight .25 mm	
1.3.13	Dike 5—Approximately located		3.5 mm 1.0 mm	
1.3.14	Dike 6—Certain		1.25 mm lineweight .375 mm	
1.3.15	Dike 6—Approximately located		3.5 mm 1.0 mm	